

THE CLAIMS

What is claimed is:

- 5 1. A substrate treating solution for imparting hydrophobicity to a substrate comprising an aqueous mixture of a C1 to C4 alkyl siliconate compound and a silicate compound, with the compounds being present in combination in amount effective to increase
- 10 hydrophobicity of the substrate after the solution is applied thereto.
2. The solution of claim 1 wherein the siliconate compound is an alkali metal alkyl siliconate and the
- 15 silicate compound is an alkali metal silicate, with the silicate and siliconate compounds being present in a molar ratio of about 0.5:1 to 10:1.
3. The solution of claim 1 wherein the siliconate
- 20 compound is a alkali metal methyl siliconate and the silicate compound is an sodium or potassium hydrosoluble silicate, with the silicate and siliconate compounds being present in a molar ratio of about 1:1 to 5:1.
- 25 4. The solution of claim 1 wherein the siliconate compound is a sodium or potassium methyl siliconate and the silicate compound is an sodium or potassium ortho or meta-silicate, with the silicate and siliconate compounds being present in a molar ratio of about 2:1 to 3:1.
- 30 5. The solution of claim 1 wherein the siliconate compound is present in an amount of about 0.1 and 1% by

weight and the silicate compound is present in an amount of about 0.01 and 5% by weight.

6. The solution of claim 1 which further comprises
5 a coloring principle, an agrochemical principle or both.

7. A method of treating a substrate which
comprises applying the solution of claim 1 upon or within
the substrate to increase hydrophobicity of the substrate
10 or to render hydrophobic a portion of the substrate.

8. The method of claim 7 wherein the substrate is
one or more of sand, gravel, tree bark, sawdust, compost,
earth and solid porous materials.
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9. The method of claim 7 wherein the solution is
applied directly upon the substrate by spraying or
sprinkling of the solution thereon.

10. The method of claim 7 wherein the solution is
mixed with substrate forming components to form a
pretreated mixture and the pretreated mixture is
deposited to form the hydrophobic portion of the
substrate.
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11. The method of claim 7 wherein the siliconate
compound is present in the treated substrate in an amount
of between about 2 and 60 Kg per hectare, and the
silicate compound is present in the treated substrate in
25 an amount of between about 2 and 150 Kg per hectare.
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12. The method of claim 7 wherein the siliconate
compound is an alkali metal alkyl siliconate and the

silicate compound is an alkali metal silicate, with the silicate and siliconate compounds being present in a molar ratio of about 0.5:1 to 10:1.

5 13. The method of claim 7 wherein the siliconate compound is a alkali metal methyl siliconate and the silicate compound is an sodium or potassium hydrosoluble silicate, with the silicate and siliconate compounds being present in a molar ratio of about 1:1 to 5:1.

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14. The method of claim 7 wherein the siliconate compound is a sodium or potassium methyl siliconate and the silicate compound is an sodium or potassium ortho or meta-silicate, with the silicate and siliconate compounds
15 being present in a molar ratio of about 2:1 to 3:1.

15. The method of claim 7 wherein the siliconate compound is present in an amount of about 0.1 and 1% by weight and the silicate compound is present in an amount
20 of about 0.01 and 5% by weight.

16. The method of claim 7 wherein the solution further comprises a coloring principle, an agrochemical principle or both.